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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,750	06/26/2003	Toru Inoue	0666.1810001	3802

26111 7590 03/14/2006

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EXAMINER	
LE, DAVID D	

ART UNIT	PAPER NUMBER
3681	

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/603,750	INOUE ET AL.	
	Examiner	Art Unit	
	David D. Le	3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/942,556.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This is the third Office action on the merits of Application No. 10/603,750, filed on 26 June 2003. Claims 1-6 and 10 are pending.

Documents

2. The following documents have been received and filed as part of the patent application:

- Information Disclosure Statement, received on 06/26/03
- English Translations for Foreign Priority Documents, received on 02/22/06

Response to Amendment

3. Applicant submits the English Translation for the Foreign Priority Documents and requests for reconsideration of the finality of the rejection of the last Office action. The finality of the rejection of the last Office action has been reconsidered and withdrawn in view of the newly submitted English translation of the Foreign Priority Documents.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3:

- Lines 12-13 recite the limitation "said centrifugal governor being disposed at a portion of said input shaft *facing* toward said prime rotary object." Since the claim has not properly defined the face of the centrifugal governor, it is unclear which part of the centrifugal governor is considered as a face, which is facing toward the prime rotary object.

Claim 4:

- Line 5 recites the limitation "its left and right portions". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 5,337,853 to Magni.

Claim 6:

Magni (i.e., Fig. 2; column 2, line 22 – column 3, line 49) discloses a differential-brake group for vehicle driving axles comprising:

- A differential (i.e., Fig. 2, element 4);

- A transmission housing (i.e., Fig. 2, being the combination of at least elements 32, 31, 3);
- A pair of left and right axles (i.e., Fig. 2, element 2) connected with each other by said differential;
- An axle housing (i.e., Fig. 2, element 1) mounted onto one of left and right faces of said transmission housing to support one of said left and right axles;
- Wherein a joint space is formed in a joint portion between said transmission housing and said axle housing (i.e., Fig. 2);
- A differential locking slider (i.e., Fig. 2, being the combination of elements 12, 14, 63 and 64) which can switch between a differential mode for connecting said left and right axles with each other in a differential manner (i.e., Fig. 2, when the two braking devices 6 are in a disengaged state) and a differential-locking mode for integrally connecting said left and right axles (i.e., Fig. 2, when the two braking devices 6 are in an engaged state);
- A friction disc (i.e., Fig. 2, elements 61 and 62) provided on at least one of left and right axles via a hub and housed by said axle housing;
- A pressure member (i.e., Fig. 2, element 65) which pushes said friction disc so as to engage said at least one of said left and right axles with said axle housing, thereby braking said left and right axles;
- Wherein said pressure member and said differential locking slider are disposed substantially coaxially with each other in said joint space; and

- Wherein said differential locking slider is disposed at a position nearer to the other of said left and right sides of said transmission housing (i.e., Fig. 2).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 5,617,764 to Komura et al. in view of WO99/52733.

Note:

To facilitate a better understanding as well as greater accuracy in explaining the following claim rejections, the examiner will refer to U. S. Patent No. 6,363,815 to Ishimaru et al., which is the equivalent English version of the WO99/52733.

Claims 1-2 and 4-5:

Komura (i.e., Figs. 1-4; column 4, line 45 – column 7, line 56) discloses a transmission comprising:

- An input shaft (i.e., Fig. 1, element 16) for receiving power of the engine through a continuously variable transmission (i.e., Fig. 1, element 3);
- An output shaft (i.e., Fig. 1, element 24) disposed parallel with said input shaft;

- A pair of left and right axles (i.e., Fig. 1, elements 6L and 6R) extended oppositely to each other and in parallel with said output shaft;
- A differential (i.e., Fig. 1, element 5) connecting said left and right axles with each other in a differential manner;
- A transmission housing (i.e., Fig. 1, element 2) containing said input shaft, said output shaft, said pair of axles and differential;
- A pair of left and right axle housings (i.e., Fig. 1, element 49) mounted onto left and right faces of said transmission housing respectively, said pair of left and right axle housings house said left and right axles, and wherein said pair of left and right axle housing include mounting portions for mounting to the bodywork frame (i.e., column 4, lines 47-57);
- Wherein said input shaft is disposed closer to the engine than said axles in the longitudinal direction of the vehicle (i.e., Fig. 1);
- A drive train which can switch the rotational direction of said output shaft in relation to the rotational direction of said input shaft (i.e., column 5, line 66 – column 6, line 11);
- Wherein said drive train drivingly connects said input shaft with a portion of said output shaft, and which is nearer to one end of said output shaft (i.e., Fig. 3 and column 5, line 48 – column 6, line 11);
- A prime rotary object (i.e., Fig. 3, element 431) provided on said output shaft nearer to the other end of said output shaft (i.e., Fig. 3);

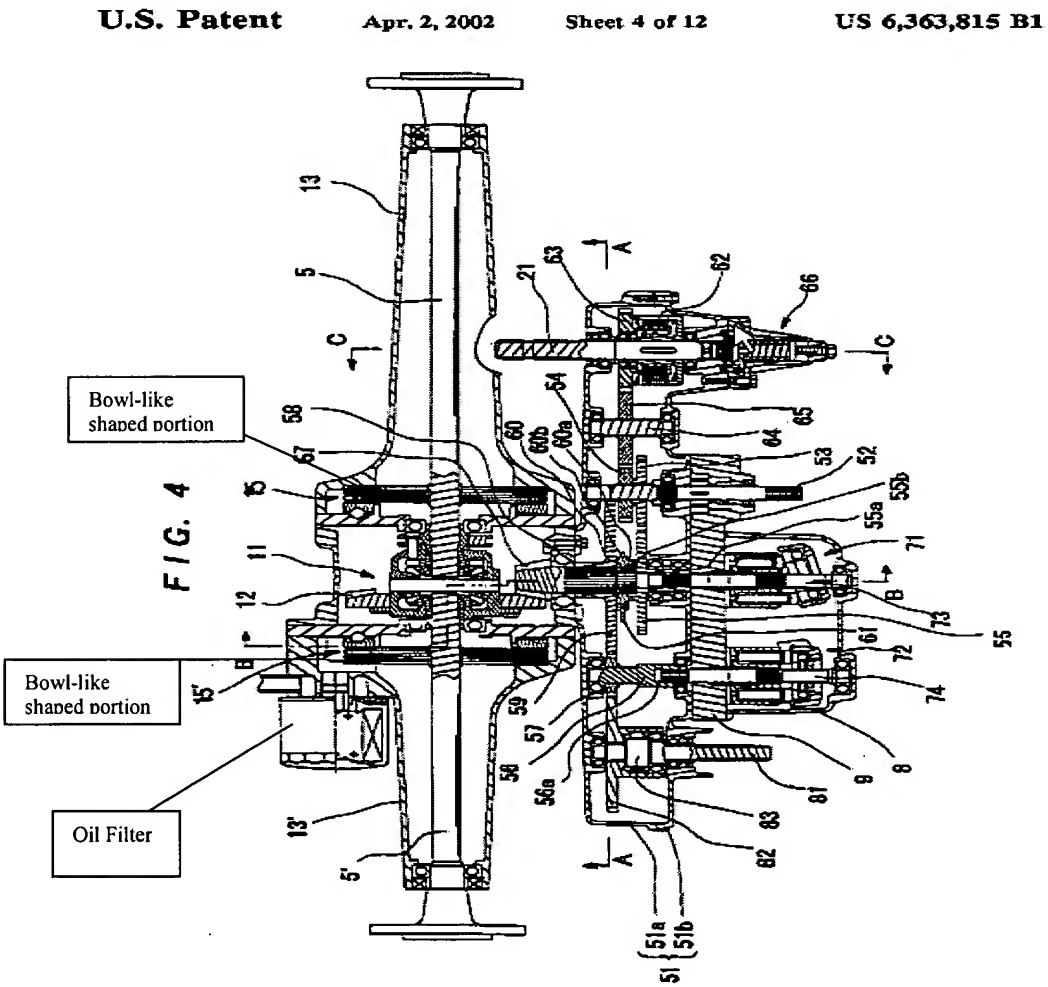
- A follower rotary object (i.e., Fig. 3, element 432 serving as an input means of said differential, said follower rotary object being engaged with said prime rotary object (i.e., Fig. 3);
- A pair of left and right transmission housing parts (i.e., Fig. 1, element 2L and 2R) into which said transmission housing is laterally dividable through a surface which is perpendicular to a longitudinal direction of said axles;
- Wherein said differential is supported at its left and right portions by said left and right transmission housing parts, respectively (i.e., Fig. 1);
- Bearings (i.e., Fig. 1, elements 48) provided at outer ends of said respective axle housings;
- Wherein said bearings support outward portions of said axles projecting leftward and rightward from said differential (i.e., Fig. 1); and
- A brake device (i.e., Fig. 1, element 50) having an arm for operating said brake device.

Komura lacks:

- A wet-type disc brake device provided around a portion of said left and right axles covered by said left and right axle housings;
- Wherein a portion of said at least one of said axle housings to be attached to said transmission housing is expanded so as to be bowl-like shaped;
- Wherein said wet-type disc brake is disposed in the bowl-like shaped portion of said axle housing; and

- Wherein an arm for operating said wet-type disc brake is disposed outside the bowl-like shaped portion of said axle housing.

Ishimaru (i.e., Figs. 3-4; column 4, line 55 – column 6, line 15), on the other hand, teaches a transmission comprising:



- Left and right axle housings (i.e., Fig. 4, elements 13 and 13');
- A left and right axles (i.e., Fig. 4, elements 5 and 5');
- A differential (i.e., Fig. 4, element 11);
- A brake oil filter (i.e., Fig. 4, element oil filter above);
- A plurality of wet-type disc brakes (i.e., Fig. 4, elements 15 and 15') provided around a portion of said left and right axles covered by said left and right axle housings;
- Wherein a portion of said at least one of said axle housings to be attached to said transmission housing is expanded so as to be bowl-like shaped (i.e. Fig. 4 above);
- Wherein said wet-type disc brake is disposed in the bowl-like shaped portion of said axle housing (i.e., Fig. 4 above); and
- Wherein an arm for operating said wet-type disc brake is disposed outside the bowl-like shaped portion of said axle housing (i.e., Fig. 3, elements 15a and 15a').

It would have been obvious to one of ordinary skill in the art at the time this invention was made to modify Komura such that the brake device 50 is replaced with the wet-type disc brake, which is housed and supported by the left and right axle housings, in view of Ishimaru, in order to improve the braking capability of the vehicle.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komura et al in view of WO99/52733 as applied to claims 1-2 and 4-5 above, and further in view of U. S. Patent No. 4,790,278 to Schlosser et al.

Note:

To facilitate a better understanding as well as greater accuracy in explaining the following claim rejections, the examiner will refer to U. S. Patent No. 6,363,815 to Ishimaru et al., which is the equivalent English version of the WO99/52733.

Claim 3:

Komura in view of Ishimaru discloses the limitations as set forth in paragraph 8 above. Regarding claim 3, Komura lacks:

- A centrifugal governor for changing the output of the engine according to the variation of the rotational speed of said input shaft; and
- Wherein said centrifugal governor is disposed at a portion of said input shaft facing toward said prime rotary object.

Schlosser (i.e., Fig.1; column 2, line 45 – column 3, line 25), on the other hand, teaches a reduction gear axle apparatus comprising:

- A centrifugal governor (i.e., Fig. 1, element 50) for changing the output of the engine according to the variation of the rotational speed of said input shaft (i.e., column 3, lines 21-25);
- A prime rotary object (i.e., Fig. 1, element 24); and
- Wherein said centrifugal governor is disposed at a portion of said input shaft facing toward said prime rotary object (i.e., Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time this invention was made to further modify Komura to include a centrifugal governor, which is disposed at a portion of the input shaft facing toward the prime rotary object, in view of Schlosser, in order to effectively and desirably modulate the engine speed (Schlosser, column 3, lines 21-25).

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the second embodiment of U. S. Patent No. 5,617,764 to Komura et al. in view of U. S. Patent No. 5,337,853 to Magni.

Claim 10:

Komura's second embodiment (i.e., Figs. 5-7; column 7, line 57 – column 10, line 16) discloses a transmission comprising:

- An input shaft (i.e., Fig. 5, element 16) for receiving power of the engine;
- A follower pulley (i.e., Fig. 5, element 60) constituting a belt-type continuously variable transmission (i.e., Fig. 5 element 3) disposed onto an outward projecting portion of said input shaft (i.e., Fig. 5);
- A transmission housing (i.e., Fig. 5, element 2) containing said input shaft; and
- Wherein said input shaft projects outward from one of left and right sides of said transmission housing (i.e., Fig. 5);
- A pair of left and right axles (i.e., Fig. 5, elements 6L and 6R) extended oppositely to each other and in parallel with said output shaft; and

- A pair of left and right axle housings (i.e., Fig. 5, element 49) mounted onto left and right faces of said transmission housing.

Komura's second embodiment lacks:

- A differential;
- Wherein said pair of left and right axles are connected with each other by said differential;
- Wherein a joint space is formed in a joint portion between said transmission housing and said axle housing;
- A differential locking slider which can switch between a differential mode for connecting said left and right axles with each other in a differential manner and a differential-locking mode for integrally connecting said left and right axles;
- A friction disc provided on at least one of left and right axles via a hub and housed by said axle housing;
- A pressure member which pushes said friction disc so as to engage said at least one of said left and right axles with said axle housing, thereby braking said left and right axles;
- Wherein said pressure member and said differential locking slider are disposed substantially coaxially with each other in said joint space; and
- Wherein said differential locking slider is disposed at a position nearer to the other of said left and right sides of said transmission housing.

Magni (i.e., Fig. 2; column 2, line 22 – column 3, line 49), on the other hand, discloses a differential-brake group for vehicle driving axles comprising:

- A differential (i.e., Fig. 2, element 4);
- A transmission housing (i.e., Fig. 2, being the combination of at least elements 32, 31, 3);
- A pair of left and right axles (i.e., Fig. 2, element 2) connected with each other by said differential;
- An axle housing (i.e., Fig. 2, element 1) mounted onto one of left and right faces of said transmission housing to support one of said left and right axles;
- Wherein a joint space is formed in a joint portion between said transmission housing and said axle housing (i.e., Fig. 2);
- A differential locking slider (i.e., Fig. 2, being the combination of elements 12, 14, 63 and 64) which can switch between a differential mode for connecting said left and right axles with each other in a differential manner (i.e., Fig. 2, when the two braking devices 6 are in a disengaged state) and a differential-locking mode for integrally connecting said left and right axles (i.e., Fig. 2, when the two braking devices 6 are in an engaged state);
- A friction disc (i.e., Fig. 2, elements 61 and 62) provided on at least one of left and right axles via a hub and housed by said axle housing;
- A pressure member (i.e., Fig. 2, element 65) which pushes said friction disc so as to engage said at least one of said left and right axles with said axle housing, thereby braking said left and right axles;

- Wherein said pressure member and said differential locking slider are disposed substantially coaxially with each other in said joint space; and
- Wherein said differential locking slider is disposed at a position nearer to the other of said left and right sides of said transmission housing (i.e., Fig. 2).

It would have been obvious to one of ordinary skill in the art at the time this invention was made to modify Komura's second embodiment to include a differential-brake group, in view of Magni, in order to improve the braking effectiveness of the vehicle (Magni, column 1, lines 6-13).

Response to Arguments

12. Applicant's arguments with respect to claims 1-6 and 10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 571-272-7092. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ddl

Charles A Marmor 3/8/06

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